INTERNATIONAL SEARCH REPORT

IB2004/003431

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 F16K5/22 According to international Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED $\begin{array}{ll} \mbox{Minimum documentation searched (classification system followed by classification symbols)} \\ \mbox{IPC 7} & \mbox{F16K} \end{array}$ Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| Х | EP 0 460 865 A (BTR PLC) 11 December 1991 (1991-12-11) column 2, line 29 - column 4, line 13 figures 1,2 | 1,2,4,7 |
| A | rigures 1,2 | 3,5,6 |
| X | EP 0 100 987 A (ROCKWELL INTERNATIONAL CORPORATION) 22 February 1984 (1984-02-22) page 4, line 8 - page 6, line 20 | 1,2,4-6 |
| Α | figures 1,2 | 3,7 |
| X | FR 1 200 647 A (ANDRÉ FORTANE) 23 December 1959 (1959-12-23) page 1, right-hand column, paragraph 8 - page 2, left-hand column, paragraph 6 | 1,2,4-6 |
| Α | figures 1-4 | 3,7 |

| | -/ |
|--|---|
| X Further documents are listed in the continuation of box C. | X Patent family members are listed in annex. |
| Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the International filling date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the International filing date but later than the priority date claimed | "T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family |
| Date of the actual completion of the international search 7 February 2005 | Date of mailing of the international search report 16/02/2005 |
| Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016 | Authorized officer Ceuca, A-N |

INTERNATIONAL SEARCH REPORT

IB2004/003431

| | | 182004/003431 | | |
|------------|---|-------------------------|--|--|
| | ation) DOCUMENTS CONSIDERED TO BE RELEVANT | I Delevent to claim No. | | |
| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. | | |
| Α | US 3 414 002 A (VOLPIN ALEXANDER S) 3 December 1968 (1968-12-03) column 2, line 18 - column 5, line 44 figures | 1-7 | | |
| Α | US 2 175 867 A (BALLARD HERMAN E) 10 October 1939 (1939-10-10) column 2, line 6 - column 4, line 36 figure 1 | 1-7 | | |
| Α | US 2 147 851 A (MALLON FELIX) 21 February 1939 (1939-02-21) the whole document | 1-7 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | · | | | |
| | · | · | | |
| | | | | |

INTERNATIONAL SEARCH REPORT

IB2004/003431

| Patent document cited in search report | | Publication · date | Patent family member(s) | | Publication date |
|--|---|--------------------|--|--|--|
| EP 0460865 | Α | 11-12-1991 | EP GB | 0460865 A2 2245342 A | 11-12-1991 02-01-1992 |
| EP 0100987 | Α | 22-02-1984 | AR AU BR CA DE DK EP IN JP JP KR ZA | 230691 A1 561680 B2 1750183 A 8304403 A 1217176 A1 3374335 D1 372383 A ,B, 0100987 A2 159589 A1 2566748 B2 59054865 A 8900072 B1 8305795 A | 31-05-1984 14-05-1987 23-02-1984 27-03-1984 27-01-1987 10-12-1987 17-02-1984 22-02-1984 30-05-1987 25-12-1996 29-03-1984 07-03-1989 30-05-1984 |
| FR 1200647 | Α | 23-12-1959 | NONE | - | |
| US 3414002 | Α | 03-12-1968 | DE GB | 1600975 A1 1159913 A | 06-05-1970 30-07-1969 |
| US 2175867 | A | 10-10-1939 | NONE | | |
| US 2147851 | Α | 21-02-1939 | NONE | | |
| | | | | | |